

Progress towards COMET Phase-I

The COMET experiment is designed to search for flavour violation in the charged lepton sector, via the coherent neutrinoless process $\mu + A \rightarrow e + A$, which can probe a wide variety of BSM physics. Using the new high-power proton beam at J-PARC, the sensitivity of the final COMET experiment is substantially better than previous experiments.

In order to better understand the beam and ordinary muon decay backgrounds that are relevant at this sensitivity, an initial Phase-I of the experiment will use just the upstream 90° bend of the final COMET beam transport. In addition to studying the beam characteristics, the Phase-I experiment will also search for μ - e conversions with sensitivity 2 orders of magnitude better than the current limit. The Phase-I experiment is in the final stages of design, and construction of the COMET facility has already begun.

WG3: Accelerator Physics (Yes/No)

No

WG2: Neutrino Scattering Physics (Yes/No)

No

WG4: Muon Physics (Yes/No)

Yes

WG1: Neutrino Oscillation Physics (Yes/No)

No

Type of presentation

Oral presentation

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